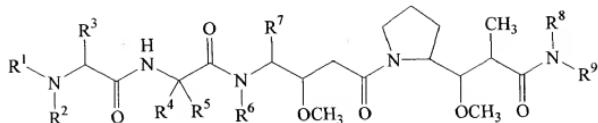


CLAIMS

1. A compound of the formula



wherein, independently at each location:

R¹ is selected from hydrogen and lower alkyl;

R² is selected from hydrogen and lower alkyl;

R³ is lower alkyl;

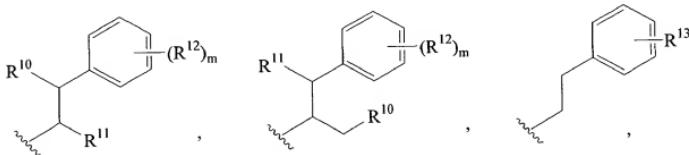
R⁴ is selected from lower alkyl, aryl, and -CH₂-C₅₋₇carbocycle when R⁵ is selected from H and methyl, or R⁴ and R⁵ together form a carbocycle of the partial formula -(CR^aR^b)_n- wherein R^a and R^b are independently selected from hydrogen and lower alkyl and n is selected from 2, 3, 4, 5 and 6;

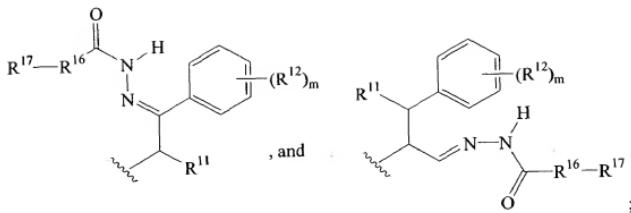
R⁶ is selected from hydrogen and lower alkyl;

R⁷ is *sec*-butyl or *iso*-butyl;

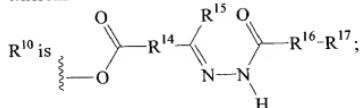
R⁸ is selected from hydrogen and lower alkyl; and

R⁹ is selected from





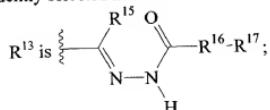
wherein:



R^{11} is selected from hydrogen and lower alkyl;

R^{12} is selected from [lower alkyl], halogen, and methoxy, and m is 0-5

where R^{12} is independently selected at each occurrence; and



wherein:

R^{14} is selected from a direct bond, divalent lower alkyl and

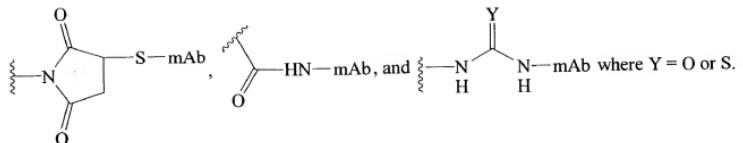
divalent aryl;

R^{15} is selected from hydrogen, lower alkyl and aryl;

R^{16} is selected from divalent lower alkyl, divalent aryl, and

$-(\text{CH}_2\text{OCH}_2)_p\text{CH}_2-$ where p is 1-5; and

R¹⁷ is selected from



2. A compound of claim 1 wherein R¹ is hydrogen.

3. A compound of claim 1 wherein R¹ and R² are methyl.

4. A compound of claim 1 wherein R³ is isopropyl.

5. A compound of claim 1 wherein R⁴ is selected from lower alkyl, aryl, and -CH₂-C₅₋₇carbocycle and R⁵ is selected from H and methyl.

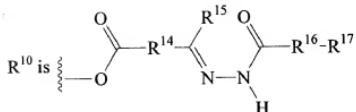
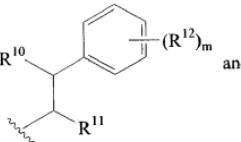
6. A compound of claim 1 wherein R⁴ is selected from lower alkyl, and R⁵ is selected from H and methyl.

7. A compound of claim 1 wherein R⁴ and R⁵ together form a carbocycle of the partial formula -(CR^aR^b)_n- wherein R^a and R^b are independently selected from hydrogen and lower alkyl and n is selected from 2, 3, 4, 5 and 6.

8. A compound of claim 1 wherein R⁶ is lower alkyl.

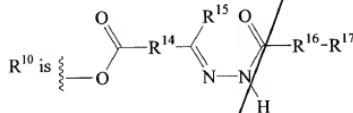
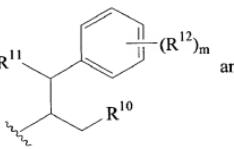
9. A compound of claim 1 wherein R⁸ is hydrogen.

10. A compound of claim 1 wherein R^9 is $R^{10}-C(CH_3)-C_6H_4-(R^{12})_m$ and



11. A compound of claim 10 wherein R^{14} is selected from divalent aryl and divalent alkyl; R^{15} is selected from lower alkyl and aryl; and R^{16} is divalent lower alkyl.

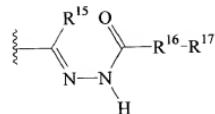
12. A compound of claim 1 wherein R^9 is $R^{11}-C(CH_3)-C_6H_4-(R^{12})_m$ and



13. A compound of claim 12 wherein R^{14} is selected from divalent aryl and divalent lower alkyl; R^{15} is selected from lower alkyl and aryl; and R^{16} is divalent lower alkyl.

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14. A compound of claim 1 wherein R^9 is

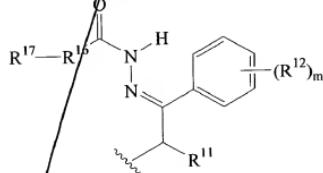


and R^{13} is

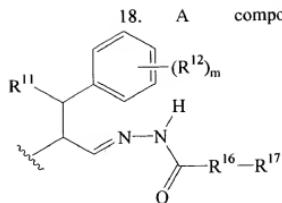
lower alkyl.

lower alkyl.

16. A compound of claim 1 wherein R^9 is



17. A compound of claim 16 wherein R¹⁶ is selected from divalent lower alkyl and divalent aryl.



19. A compound of claim 18 wherein R^{16} is selected from divalent lower alkyl and divalent aryl.

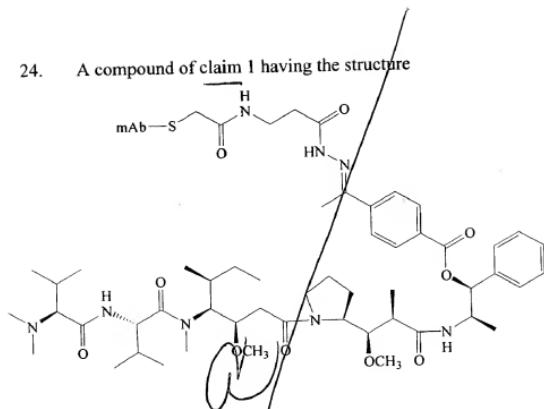
20. A compound of claim 1 wherein R^{17} is $\text{H}_2\text{N-CH}_2\text{CH}_2\text{S-mAb}$.

21. A compound of claim 1 wherein R^{17} is $\text{N}(\text{H})\text{C(=O)C}_3\text{H}_4\text{C(=O)S-mAb}$.

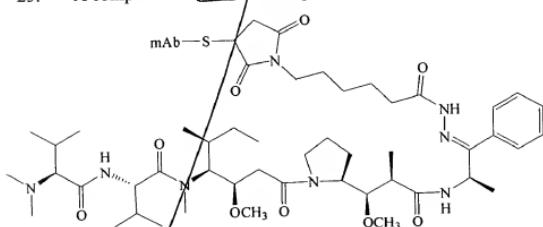
22. A compound of claim 1 wherein R^{17} is C(=O)-NH-mAb .

23. A compound of claim 1 wherein R^{17} is $\text{N}(\text{H})\text{C(=Y)N(\text{H})-mAb}$ and $Y = \text{O}$ or S .

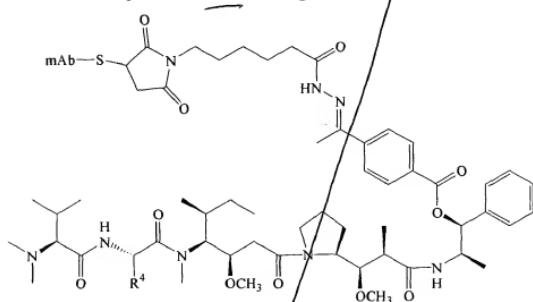
24. A compound of claim 1 having the structure



25. A compound of claim 1 having the structure

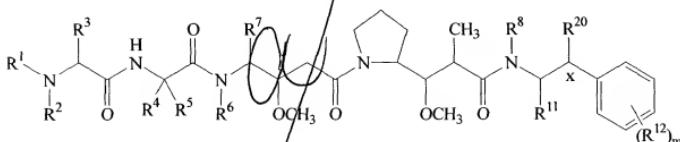


26. A compound of claim 1 having the structure



wherein R⁴ is selected from *iso*-propyl and *sec*-butyl.

27. A compound of the formula



wherein, independently at each location:

R² is selected from hydrogen and lower alkyl;

R³ is lower alkyl;

R⁴ is selected from lower alkyl, aryl, and -CH₂-C_{5.7}carbocycle when R⁵ is selected from H and methyl, or R⁴ and R⁵ together form a carbocycle of the partial formula -(CR^aR^b)_n- wherein R^a and R^b are independently selected from hydrogen and lower alkyl and n is selected from 2, 3, 4, 5 and 6;

R⁶ is selected from hydrogen and lower alkyl;

R⁷ is *sec*-butyl or *iso*-butyl;

R⁸ is selected from hydrogen and lower alkyl;

R¹¹ is selected from hydrogen and lower alkyl;

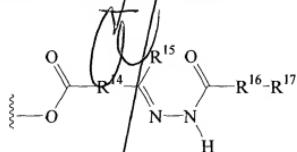
R¹² is selected from lower alkyl, halogen, and methoxy, and m is 0-5 where R¹² is independently selected at each occurrence; and

R²⁰ is a reactive linker group having a reactive site that allows R²⁰ to be reacted with a targeting moiety, where R²⁰ can be bonded to the carbon labeled "x" by either a single or double bond.

28. A compound of claim 27 wherein the reactive site is selected from *N*-hydroxysuccinimide ester, *p*-nitrophenyl ester, pentafluorophenyl ester, isothiocyanate, isocyanate, anhydride, acid chloride, and sulfonyl chloride.

formula

29. A compound of claim 27 wherein R²⁰ comprises a hydrazone of the

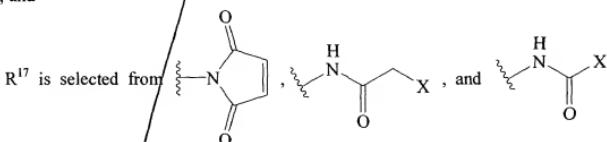


wherein:

R¹⁴ is selected from a direct bond, divalent lower alkyl and divalent aryl;

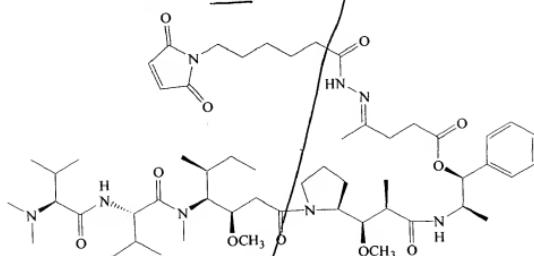
R¹⁵ is selected from hydrogen, lower alkyl and aryl;

R¹⁶ is selected from divalent lower alkyl, divalent aryl, and $-(\text{CH}_2\text{OCH}_2)_p\text{CH}_2$ where p is 1-5; and

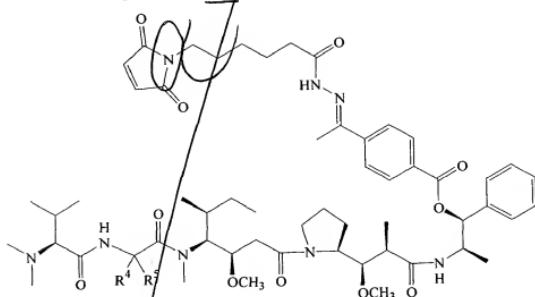


wherein X is a leaving group.

30. A compound of claim 29 having the formula

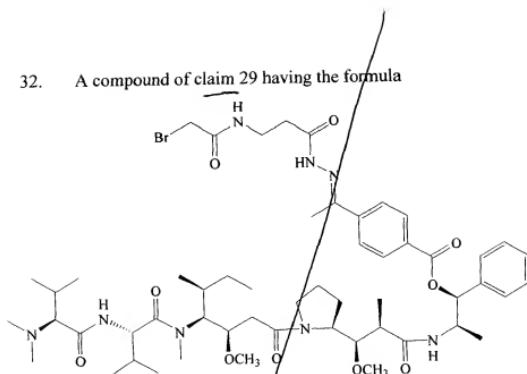


31. A compound of claim 29 having the formula

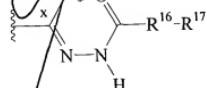


wherein R⁴ is selected from *iso*-propyl and *sec*-butyl, and R⁵ is hydrogen.

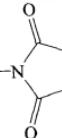
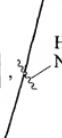
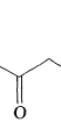
32. A compound of claim 29 having the formula



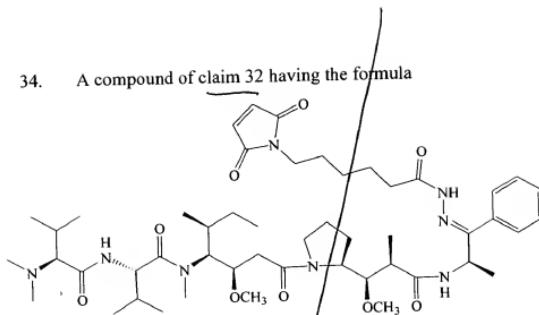
33. A compound of claim 27 wherein R^{20} comprises a hydrazone of the formula:



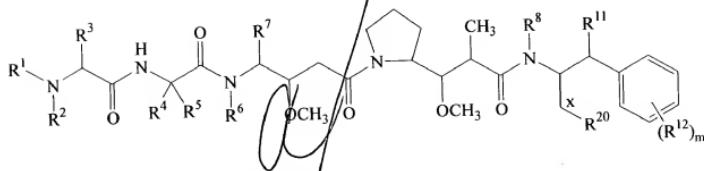
wherein R^{16} is selected from divalent lower alkyl, divalent aryl, and $-(CH_2OCH_2)_pCH_2-$ where p is 1-5, and x identifies the carbon also marked x in claim 27; and R^{17}

is selected from  ,  , and  where X is a leaving group.

34. A compound of claim 32 having the formula



35. A compound of the formula



wherein, independently at each location:

R¹ is selected from hydrogen and lower alkyl;

R² is selected from hydrogen and lower alkyl;

R³ is lower alkyl;

R⁴ is selected from lower alkyl, aryl, and -CH₂-C₅₋₇carbocycle when R⁵ is selected from H and methyl, or R⁴ and R⁵ together form a carbocycle of the partial formula -(CR^aR^b)_n wherein R^a and R^b are independently selected from hydrogen and lower alkyl and n is selected from 2, 3, 4, 5 and 6;

R⁶ is selected from hydrogen and lower alkyl;

R⁷ is *sec*-butyl or *iso*-butyl;

R⁸ is selected from hydrogen and lower alkyl;

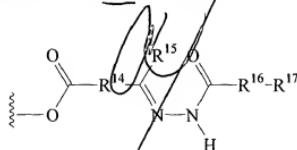
R¹¹ is selected from hydrogen and lower alkyl;

R¹² is selected from lower alkyl, halogen, and methoxy, and m is 0-5 where R¹² is independently selected at each occurrence; and

R²⁰ is a reactive linker group having a reactive site that allows R²⁰ to be reacted with a targeting moiety, where R²⁰ can be bonded to the carbon labeled "x" by either a single or double bond.

36. A compound of claim 35 wherein the reactive site is selected from N-hydroxysuccinimide ester, p-nitrophenyl ester, pentafluorophenyl ester, isothiocyanate, isocyanate, anhydride, acid chloride, and sulfonyl chloride.

37. A compound of claim 35 wherein R²⁰ comprises a hydrazone of the formula

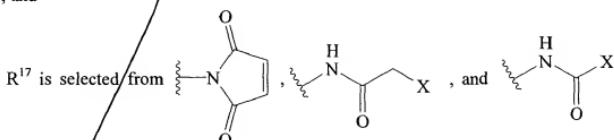


wherein:

R¹⁴ is selected from a direct bond, divalent lower alkyl and divalent aryl;

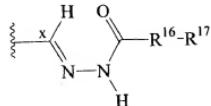
R¹⁵ is selected from hydrogen, lower alkyl and aryl;

R¹⁶ is selected from divalent lower alkyl, divalent aryl, and -(CH₂OCH₂)_pCH₂- where p is 1-5; and



wherein X is a leaving group.

38. A compound of claim 35 wherein R^{20} comprises a hydrazone of the formula:

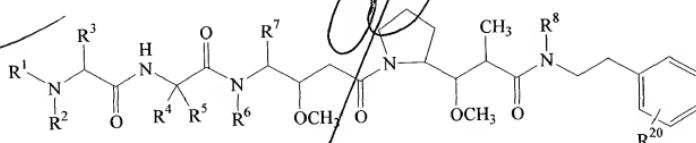


wherein R^{16} is selected from divalent lower alkyl, divalent aryl, and $(CH_2OCH_2)_pCH_2^-$ where p

is 1-5; and R^{17} is selected from , , and

X is a leaving group.

39. A compound of the formula



wherein, independently at each location:

R^1 is selected from hydrogen and lower alkyl;

R^2 is selected from hydrogen and lower alkyl;

R^3 is lower alkyl;

R^4 is selected from lower alkyl, aryl, and $-CH_2-C_5.7$ carbocycle when R^5 is selected from H and methyl, or R^4 and R^5 together form a carbocycle of the partial formula $-(CR^aR^b)_n-$ wherein R^a and R^b are independently selected from hydrogen and lower alkyl and n is selected from 2, 3, 4, 5 and 6;

R^6 is selected from hydrogen and lower alkyl;

R^7 is *sec*-butyl or *iso*-butyl;

R⁸ is selected from hydrogen and lower alkyl; and
R²⁰ is a reactive linker group comprising a reactive site that allows R²⁰ to be reacted with a targeting moiety.

40. A compound of claim 39 wherein the reactive site is selected from *N*-hydroxysuccinimide ester, *p*-nitrophenyl ester, pentafluorophenyl ester, isothiocyanate, isocyanate, anhydride, acid chloride, and sulfonyl chloride.

41. A compound of claim 39 wherein R²⁰ comprises a hydrazone of the formula

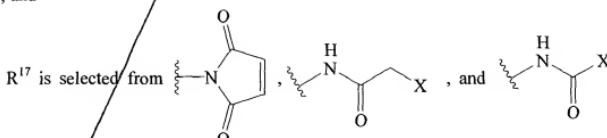


wherein:

R¹⁴ is selected from a direct bond, divalent lower alkyl and divalent aryl;

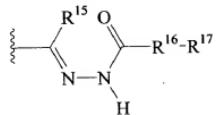
R¹⁵ is selected from hydrogen, lower alkyl and aryl;

R¹⁶ is selected from divalent lower alkyl, divalent aryl, and -(CH₂OCH₂)_pCH₂- where p is 1-5; and



where X is a leaving group.

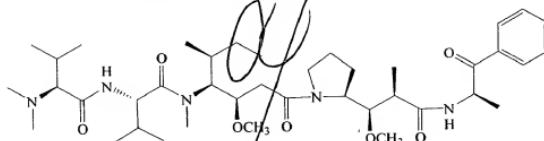
42. A compound of claim 39 wherein R^{20} comprises a hydrazone of the formula:



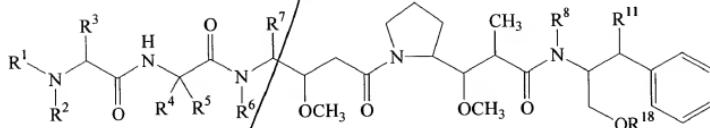
wherein, R^{15} is selected from hydrogen, and lower alkyl, R^{16} is selected from divalent lower alkyl, divalent aryl, and $-(CH_2OCH_2)_pCH_2-$ where p is 1-5 and R^{17} is selected

from , , and , where X is a leaving group.

43. A compound of the formula



44. A compound of the formula



wherein, independently at each location:

R^1 is selected from hydrogen and lower alkyl;

R^2 is selected from hydrogen and lower alkyl;

R³ is lower alkyl;

R⁴ is selected from lower alkyl, aryl, and -CH₂-C₅₋₇carbocycle when R⁵ is selected from H and methyl, or R⁴ and R⁵ together form a carbocycle of the partial formula -(CR^aR^b)_n- wherein R^a and R^b are independently selected from hydrogen and lower alkyl and n is selected from 2, 3, 4, 5 and 6;

R⁶ is selected from hydrogen and lower alkyl;

R⁷ is *sec*-butyl or *iso*-butyl;

R⁸ is selected from hydrogen and lower alkyl;

R¹¹ is selected from hydrogen and lower alkyl; and

R¹⁸ is selected from hydrogen, a hydroxyl protecting group, and a direct bond where OR¹⁸ represents =O.

45. A compound of claim 44 wherein R¹ is hydrogen.

46. A compound of claim 44 wherein R¹ and R² are methyl.

47. A compound of claim 44 wherein R³ is isopropyl.

48. A compound of claim 44 wherein R⁴ is selected from lower alkyl, aryl, and -CH₂-C₅₋₇carbocycle and R⁵ is selected from H and methyl.

49. A compound of claim 44 wherein R⁴ is selected from lower alkyl, and R⁵ is selected from H and methyl.

50. A compound of claim 44 wherein R⁴ and R⁵ together form a carbocycle of the partial formula -(CR^aR^b)_n- wherein R^a and R^b are independently selected from hydrogen and lower alkyl and n is selected from 2, 3, 4, 5 and 6.

51. A compound of claim 44 wherein R⁶ is lower alkyl.

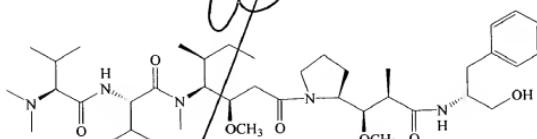
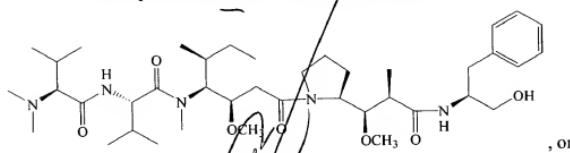
52. A compound of claim 44 wherein R^8 is hydrogen.

53. A compound of claim 44 wherein R^{11} is hydrogen.

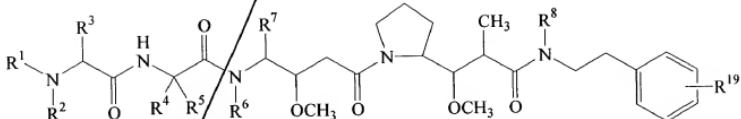
54. A compound of claim 44 wherein $-OR^{18}$ is $=O$.

55. A compound of claim 44 wherein R^{19} is hydrogen.

56. A compound of claim 44 having the structure



57. A compound of the formula



wherein, independently at each location:

R^1 is selected from hydrogen and lower alkyl;

R^2 is selected from hydrogen and lower alkyl;

R³ is lower alkyl;

R⁴ is selected from lower alkyl, aryl, and -CH₂-C_{5.7}carbocycle when R⁵ is selected from H and methyl, or R⁴ and R⁵ together form a carbocycle of the partial formula -(CR^aR^b)_n- wherein R^a and R^b are independently selected from hydrogen and lower alkyl and n is selected from 2, 3, 4, 5 and 6;

R⁶ is selected from hydrogen and lower alkyl;

R⁷ is *sec*-butyl or *iso*-butyl;

R⁸ is selected from hydrogen and lower alkyl; and

R¹⁹ is selected from hydroxy- and oxo-substituted lower alkyl.

58. A compound of claim 57 wherein R¹ is hydrogen.

59. A compound of claim 57 wherein R¹ and R² are methyl.

60. A compound of claim 57 wherein R³ is *iso*-propyl.

61. A compound of claim 57 wherein R⁴ is selected from lower alkyl, aryl, and -CH₂-C_{5.7}carbocycle and R⁵ is selected from H and methyl.

62. A compound of claim 57 wherein R⁴ is selected from lower alkyl, and R⁵ is selected from H and methyl.

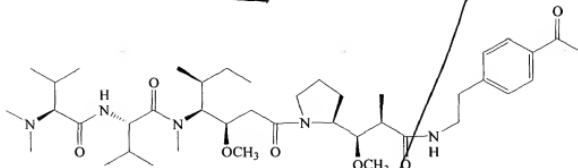
63. A compound of claim 57 wherein R⁴ and R⁵ together form a carbocycle of the partial formula -(CR^aR^b)_n- wherein R^a and R^b are independently selected from hydrogen and lower alkyl and n is selected from 2, 3, 4, 5 and 6.

64. A compound of claim 57 wherein R⁶ is lower alkyl.

65. A compound of claim 57 wherein R⁸ is hydrogen.

66. A compound of claim 57 wherein R¹⁹ is oxo-substituted lower alkyl.

67. A compound of claim 57 having the structure



68. A composition comprising a compound of any one of claims 1-26 and a pharmaceutically acceptable carrier, diluent or excipient.

69. A composition comprising a compound of any one of claims 40-64 and a pharmaceutically acceptable carrier, diluent or excipient.

70. A method for killing a cell, the method comprising contacting the cell with a lethal amount of the compound of claim 1-26.

71. A method for killing a cell, the method comprising administering to the cell a lethal amount of the compound of any one of claims 43-67.

72. A method of killing a cell comprising

a. delivering a compound of any one of claims 1-26 to a cell, where the compound enters the cell;

b. cleaving mAb from the remainder of the compound; and

c. killing the cell with the remainder of the compound.

73. A method of killing a cell comprising

a. delivering a compound of any one of claims 43-67 to a cell, where the compound enters the cell;

b. cleaving mAb from the remainder of the compound; and

c. killing the cell with the remainder of the compound.

74. A method of killing or inhibiting the multiplication of tumor cells or cancer cells in a human or other animal, the method comprising administering to the human or animal a therapeutically effective amount of a compound of any one of claims 1-26.

75. A method of killing or inhibiting the multiplication of tumor cells or cancer cells in a human or other animal, the method comprising administering to the human or animal a therapeutically effective amount of a compound of any one of claims 43-67.